

Patent Application No. 09/682,024

REMARKS

This Response is made in light of the Office Action dated September 21, 2005. In the Office Action, claims 1, 4-7, 11-14 and 17 were rejected under 35 USC §102 and claims 3-8, 10 and 18 were rejected under 35 USC §103. By this Amendment, claim 1 is amended and claims 19 and 20 are added. Currently pending claims 1, 3-7, 8, 10-14, 17-20 are believed allowable, with claims 1, 8 and 11 being independent claims.

CLAIM REJECTIONS UNDER 35 USC §102:

Claims 1, 4-7, 11-14 and 17 were rejected under 35 USC §102 as anticipated by U.S. Patent No. 4,988,981 to Zimmerman et al. ("Zimmerman").

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. MPEP §2131 citing *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Claim 1:

Claim 1 is amended herein to clarify that "the device itself" refers to "the device providing a display screen" and not to the pointer mover. Amendment to claim 1 is not made to overcome the cited art or for purposes of patentability. The scope of claim 1 is believed unchanged by this amendment.

Claim 1 recites, in part, "A device providing a display screen" Additionally, the claim recites "a pointer mover for moving the pointer on the display screen based on the detected displacement of the device itself" Thus, claim 1 requires that the pointer mover base the detected displacement on the device providing the display screen.

As shown in Fig. 1 of Zimmerman, the reference discloses a stationary display 28 with a plurality of ultrasonic receivers 24 located at the corners of the display. Zimmerman, col. 3, ln. 28-30 and Fig. 1. Movement of a glove assembly 12, worn by the user,

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controls movement of a cursor 26 on the display 28. Zimmerman, col. 3, ln. 46-52. Zimmerman also discloses, "the glove assembly 12 contains sensors that detect the flexing of the fingers and other gestures of the hand of an operator, and also contains one or more ultrasonic transducers 17 for transmitting signals to receivers 20 to enable detecting the spatial position of the glove assembly 12 with respect to the computer display." Zimmerman, col. 3, ln. 22-28.

In rejecting claim 1, the Examiner alleges that Zimmerman teaches a pointer mover for moving the pointer on the display screen based on the detected displacement of the device itself. Again, the Applicants note that claim 1 requires the device provide a display screen. Furthermore, it is respectfully submitted that Zimmerman is devoid of any teaching or suggestion that the glove assembly provides a display screen. Thus, the Applicants find no teaching or suggestion in Zimmerman that the pointer mover base the detected displacement on the device itself, as recited in claim 1.

Claim 1 also recites, in part, "wherein the displacement detector comprising an image sensor." The Applicants respectfully submit that Zimmerman does not teach or suggest a displacement detector comprising an image sensor. Zimmerman states, "The position sensing receiver assembly 20 includes three ultrasonic receivers 24 located at corners of display 28 facing toward the operator." Zimmerman, col. 3, ln. 28-30. There is no teaching or suggestion in Zimmerman of a displacement detector comprising an image sensor.

In rejecting claim 4, the Examiner alleges that Zimmerman teaches an image sensor comprising an infrared sensor. See OA, pg. 4. First, the Applicants note that the photosensitive detector described in Zimmerman is part of a flex sensor that detects the flexing of fingers of the hand of an operator, not the displacement of the device itself. Zimmerman, col. 4, ln. 24-30. Second, the photosensitive detector is used to detect an amount of light, rather than an image. Zimmerman, col. 4, ln. 35-39. Thus, it is respectfully submitted that Zimmerman does not teach or suggest an image sensor.

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Claim 1 further recites, "wherein the displacement detector comprising an image sensor, wherein an image sensed by the image sensor is processed to obtain a displacement of the device itself." Since there is no teaching of an image sensor in Zimmerman and since Zimmerman merely discloses sensing the displacement of a glove assembly rather than the device itself, the Applicants respectfully submit that these claim limitation are further missing from Zimmerman.

For at least these reasons, the Applicants respectfully submit that claim 1 is not anticipated by Lazzouni and earnestly solicit allowance of the claim.

Claim 17:

Claim 17 recites, "The device according to claim 1, wherein the image sensor is located in a part of the display screen." In rejecting claim 17, the Examiner argues, "the glove assembly 12 contains sensors that detect the flexing of the fingers and other gestures of the hand of an operator, and also contains one or more transducers 17 to transmitting signals to receivers 20 to enable detecting the spatial position of the glove assembly with respect to the computer display." OA, pg. 8-9.

In response, the Applicants respectfully submit that the glove shown and described in Zimmerman does not teach or suggest an image sensor located in a part of the display screen. Furthermore, the Examiner's arguments do not provide any evidence that Zimmerman teaches or suggests an image sensor located in a part of the display screen.

For at least these reasons, and the reasons given for claim 1, the Applicants respectfully submit that claim 17 is not anticipated by Zimmerman and earnestly solicit allowance of the claim.

Claims 3-7:

Claims 3-7 are dependent on and further limit claim 1. Since claim 1 is believed allowable, claims 3-7 are also believed allowable for at least the same reasons as claim 1.

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Claim 11:

Claim 1 recites, in part, "a first step of using an image sensor to take an image of a physical object facing the device continuously and detecting a relative displacement between the taken object and the display."

The Applicants respectfully submit that there is no teaching or suggestion in Zimmerman of using image sensor to take an image of a physical object facing the device continuously and detecting a relative displacement between the taken object and the display. Zimmerman states, "The position sensing receiver assembly 20 includes three ultrasonic receivers 24 located at corners of display 28 facing toward the operator." Zimmerman, col. 3, ln. 28-30. Thus, Zimmerman uses ultrasonic sound to determine the position of an operator's glove.

In rejecting claim 4, the Examiner alleges that Zimmerman teaches an image sensor comprising an infrared sensor. See OA, pg. 4. First, the Applicants note that the photosensitive detector described in Zimmerman is part of a flex sensor that detects the flexing of fingers of the hand of an operator, not to take an image of a physical object facing the device continuously and detecting a relative displacement between the taken object and the display. Zimmerman, col. 4, ln. 24-30. Second, the photosensitive detector is used to detect an amount of light, rather than an image. Zimmerman, col. 4, ln. 35-39. Thus, it is respectfully submitted that Zimmerman does not teach or suggest an image sensor.

For at least these reasons, the Applicants respectfully submit that claim 11 is not anticipated by Zimmerman and earnestly solicit allowance of the claim.

Claims 12-14:

Claims 12-14 are dependent on and further limit claim 11. Since claim 11 is believed allowable, claims 12-14 are also believed allowable for at least the same reasons as claim 11.

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CLAIM REJECTIONS UNDER 35 USC §103:

Claims 8, 10 and 18 were rejected under 35 USC §103 as obvious over U.S. Patent No. 6,137,479 to Olsen et al. ("Olsen") in view of U.S. Patent No. 5,050,116 to Stahnke et al. ("Stahnke") and Zimmerman. A *prima facie* case for obviousness can only be made if the combined reference documents teach or suggest all the claim limitations. MPEP 2143.

Claim 8:

Claim 8 recites, in part, "an image sensor, wherein an image sensed by the image sensor is processed to obtain a displacement of the device itself." In rejecting claim 8, the Office Action alleges that Zimmerman teaches the above limitations of claim 8. The Office Action does not argue that Olsen or Stahnke disclose such limitations and the Applicant respectfully submits that no such teaching or suggestion is believed to be found in Olsen or Stahnke.

As to Zimmerman, the Applicants respectfully submit that there is no teaching or suggestion in Zimmerman of an image sensor, wherein an image sensed by the image sensor is processed to obtain a displacement of the device itself. Zimmerman states, "The position sensing receiver assembly 20 includes three ultrasonic receivers 24 located at corners of display 28 facing toward the operator." Zimmerman, col. 3, ln. 28-30. Thus, Zimmerman uses ultrasonic sound to determine the position of an operator's glove rather than imaging technology.

In rejecting claim 4, the Examiner alleges that Zimmerman teaches an image sensor comprising an infrared sensor. See OA, pg. 4. First, the Applicants note that the photosensitive detector described in Zimmerman is part of a flex sensor that detects the flexing of fingers of the hand of an operator, not to obtain a displacement of the device itself. Zimmerman, col. 4, ln. 24-30. Second, the photosensitive detector is used to detect an amount of light, rather than an image. Zimmerman, col. 4, ln. 35-39. Thus, it is respectfully submitted that Zimmerman does not teach or suggest an image sensor to obtain a displacement of the device itself.

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For at least these reasons, the Applicants respectfully submit that claim 8 is not obvious in view of Olsen, Stahnke, and Zimmerman and earnestly solicit allowance of the claim.

Claim 18:

Claim 18 is dependent on claim 8 and recites, "The wristwatch type device according to claim 8, wherein the image sensor is located in a part of the display." In rejecting claim 18, the Examiner argues, "the glove assembly 12 contains sensors that detect the flexing of the fingers and other gestures of the hand of an operator, and also contains one or more transducers 17 to transmitting signals to receivers 20 to enable detecting the spatial position of the glove assembly with respect to the computer display." OA, pg. 8-9.

In response, the Applicants respectfully submit that the glove shown and described in Zimmerman does not teach or suggest an image sensor located in a part of the display screen. Furthermore, the Examiner's arguments do not provide any evidence that Zimmerman teaches or suggests an image sensor located in a part of the display screen.

For at least these reasons, and the reasons given for claim 8, the Applicants respectfully submit that claim 18 is not obvious in view of Olsen, Stahnke, and Zimmerman and earnestly solicit allowance of the claim.

Claim 10:

Claim 10 is dependent on and further limits claim 8. Since claim 8 is believed allowable, claim 10 is also believed allowable for at least the same reasons as claim 8. Allowance of claim 10 is therefore earnestly solicited.

NEW CLAIMS:

By this amendment, new claims 19 and 20 are introduced to the present application. Support for these claims can be found at least at paragraph 40 of the application. The applicants respectfully submit that limitations of claims 19 and 20 are not found in the cited documents.

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CONCLUSION

In view of the forgoing remarks, it is respectfully submitted that this case is now in condition for allowance and such action is respectfully requested. If any points remain at issue that the Examiner feels could best be resolved by a telephone interview, the Examiner is urged to contact the attorney below.

No fee is believed due with this Amendment, however, should a fee be required please charge Deposit Account 50-0510. Should any extensions of time be required, please consider this a petition thereof and charge Deposit Account 50-0510 the required fee.

Respectfully submitted,

Dated: December 21, 2005


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